

WHAT IS CLAIMED IS: - 6 -  
Patent claims

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1. An add-drop arrangement (51, 54, 61) for a unidirectional optical ring network for launching and outputting optical signals, having a grating filter (62), designed as a bandstop filter, for an optical ring network for outputting optical signals ( $\lambda_B - \lambda_N$ ), characterized in that the first coupler (51) has one input, to which the incoming signals ( $\lambda_B - \lambda_N$ ) are fed, and two outputs, in that the first output is connected to a second optical coupler (61), which is designed as grating filter (62) with bandstop properties, the grating filter (62) being tuned to the wavelength of a signal ( $\lambda_{A,ADD}$ ) to be launched, such that this signal is reflected, and incoming signals ( $\lambda_B - \lambda_N$ ) having all other wavelengths are passed at and output at an output (3), in that the second coupler (61) has an add input (8) into which the signal ( $\lambda_{A,ADD}$ ) to be launched is fed against its transmission direction, reflected and added to the passed signals ( $\lambda_B - \lambda_N$ ), and in that a second output of the first coupler (51) is connected to a further optical filter (52, 54) via which an incoming optical signal ( $\lambda_{DROP}; \lambda_{B,DROP}$ ) is output.
2. The add-drop arrangement as claimed in claim 1, characterized in that the further optical filter (52, 54) of the add-drop arrangement (51, 54, 61) is designed in such a way that different transmission channels ( $\lambda_{DROP}; \lambda_{B,DROP}$ ) are output.
3. The add-drop arrangement as claimed in claim 2, characterized in that

- 7 -

the add-drop arrangement (51, 54, 61) has further filters (52) which can be exchanged or switched over, and has exchangeable second couplers (61) with grating filters (62) tuned to other wavelengths.

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4. The optical ring network as claimed in claim 3, characterized in that the add-drop arrangement (51, 54, 61) has exchangeable second couplers (61) which are tuned to other wavelengths.

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5. The optical ring network as claimed in claim 2, characterized in that the second coupler (61) has a further connection via which the reflected signals are led to an optical sink (63).

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6. An optical unidirectional ring network having a plurality of network nodes ( $NA - NN$ ), in which data signals ( $\lambda_A, \lambda_B, \dots, \lambda_N$ ) are transmitted in wavelength-division multiplex operation via an optical fiber (1) and every network node ( $NA - NN$ ) is assigned for its data signal ( $\lambda_{A,ADD}$ ) to be emitted an assigned transmission channel ( $\Lambda_A$ ) with a transmission band used only once, characterized in that at least one network node ( $NA - NN$ ) has an add-drop arrangement (51, 54, 61) as claimed in one of the preceding claims.

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7. The optical ring network as claimed in claim 6, characterized in that a further fiber (P1) is provided for protection purposes.

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